

Drug and Therapeutics Committee Training Course

Session 9: Strategies to Improve Drug Use— Overview

Participant's Guide

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PURPOSE AND CONTENT

This session is designed to provide information on how members of the Drug and Therapeutics Committee (DTC) can apply interventions to resolve drug use problems. One of the most important functions of the DTC—implementing appropriate strategies—can improve the use of drugs and, consequently, improve health outcomes and decrease cost.

Strategies that will be discussed include the following educational, managerial, and regulatory methods—

- Drug newsletters and bulletins
- Formulary manual
- Face-to-face communication
- Standard treatment guidelines
- Audit and feedback (drug use evaluations)
- Clinical pharmacy programs
- Formulary management, including drug selection
- Drug restrictions
- Drug registration and professional licensing

This session comprises an overview of this subject; a more detailed breakdown of standard treatment guidelines and drug use evaluation is provided in other sessions.

Objectives

After completion of this session, participants will be able to—

- Describe effective strategies to improve drug use
- Choose an appropriate strategy for improving drug use based on an identified problem
- Understand the importance of educational, managerial, and regulatory interventions in promoting rational drug use

Preparation

Read:

- Participant's Guide
- Management Sciences for Health. *Managing Drug Supply*. Second edition. West Hartford, CT: Kumarian Press. 1997: Chapters 11, 18, and 31.

INTRODUCTION

The Drug and Therapeutics Committee is responsible for numerous important drug management functions. The DTC evaluates new drugs for the formulary, develops policies for drug use, and identifies and corrects drug use problems. This session concentrates on strategies for improving drug use in the health care system.

The evaluation and addition of new drugs to the formulary is one of the most important functions of the DTC. The health care system needs drugs that are of proven efficacy for the medical conditions and diseases of the country. This efficacy must be well recognized and accepted by experts in the field. Safety of any drug added to the formulary is also critical, as is quality of the product. The DTC must have considerable information concerning all aspects of quality to ensure the products added to the formulary meet minimum quality standards. Evaluation of cost is essential, more important today than at any other time, as the cost of drugs as a percentage of the health care budget is increasing dramatically.

Once drugs have been added to the formulary and all of the evaluation criteria have been satisfied, then serious consideration must be given to ensuring that the drugs are used appropriately by the health care system. This function of the DTC is important to the overall management of drugs, as the inappropriate use of drugs will compromise any advantages achieved by proper selection. This is the very heart of drug management—appropriate drug selection and then ensuring appropriate use.

This session provides the participants with insights into providing programs that improve drug use. There are three types of strategies that will ensure quality of drug therapy: educational, managerial, and regulatory. These strategies are discussed in detail and provide the necessary information to improve rational drug use.

KEY DEFINITIONS

Standard Treatment Guidelines—A systematically developed collection of statements designed to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.

Formulary Manual—The publication dedicated to presenting the formulary list and other information concerning the use of drugs.

Drug Utilization Review (DUR)/Drug Use Evaluation (DUE)—Ongoing, systematic, criteria-based programs of drug evaluations that will ensure that drugs are used appropriately. If therapy is determined to be inappropriate, then interventions with providers or patients will be necessary to optimize drug therapy.

EDUCATIONAL METHODS FOR IMPROVING DRUG USE

The DTC should be involved in educational programs for health care professionals. Physicians, nurses, pharmacists, and, indeed, all professionals need constant updating of their skills and knowledge. It is not possible for physicians or pharmacists to keep up with the constant changes in the drug literature without intensive efforts by the individual and the health care system.

Educational programs include the following:

- Drug newsletters and bulletins
- Formulary manuals
- Face-to-face communications with physicians, health care leaders, and patients

Drug Newsletters and Bulletins

Drug newsletters can be a valuable instrument for the DTC in providing drug information. These newsletters can be published monthly, quarterly, or at longer intervals and should provide interested staff with unbiased and accurate information concerning drug therapy. Drug newsletters and bulletins have an advantage over formal group presentations because busy practitioners can read the information on their own schedule.

There are numerous drug newsletters and bulletins that are already published by international services and distributed worldwide, but a local bulletin would be an invaluable asset. This local bulletin would provide more information concerning drugs and drug-related problems of interest at the hospital or clinic.

Drug newsletters are more likely to be effective in improving drug use if they do the following:

- Describe the reasons for prescribing behavior—Inadequate training in infectious diseases? Distrust of in-country drugs? Reliance on trade name drugs and distrust of generics?
- Offer concise, up-to-date information that can be used immediately
- Provide limited information and repetition of key points in the newsletter—(extensive presentations of new information and reviews will lose the interest of most individuals)
- Provide a graphical, colorful newsletter that will catch the attention of the reader
- Provide reference in the newsletter to information derived from reputable journals and services
- Provide brief, simplistic text

- Provide information oriented toward actions and decisions
- Obtain feedback from the professional staff on the value of the newsletter and institute changes as necessary

Formulary Manual

The use of a formulary manual has been shown to be valuable in providing drug information to physicians, pharmacists, and nurses. A formulary manual can be described as the publication dedicated to presenting the formulary list and other information concerning the use of drugs. The formulary manual is a concise pocket-size document that provides summary information meant to be readily available for health professionals to use on a daily basis. Formulary manuals vary in scope from a listing of essential drugs to comprehensive references that contain drug information, treatment guidelines, and pharmacy policies and procedures. The following are some examples of content for a formulary manual:

- Drug formulary list
- Basic information on each drug (indications, dose, side effects)
- Supplementary information on each drug, (price, source of supply)
- Prescribing and dispensing guidelines
- Disease management guidelines for selected conditions
- Pharmacy policies and procedures pertinent to medical staff and pharmacy
- Drug procurement policies

Ideally, the manual should have at a minimum the list of formulary drugs and an information section describing each drug. This manual, when provided in a comprehensive form, provides excellent drug information for physicians and other professionals. Producing the manual is a time-consuming process and a systematic participatory approach is required to keep revisions updated.

See Session 2 for more detailed information concerning formulary manuals and their content.

Face-to-Face Communications

In-service Education Programs, Workshops, Seminars

The information database on drugs and drug therapy is constantly changing. A physician or pharmacist who has recently graduated from a training program will find that his or her knowledge base becomes inadequate in a very short period of time. Since good patient care requires the professional to have up-to-date information, in-service education and other educational programs are necessary. The DTC should have a plan to provide these at times when as many of the professional staff as possible can attend.

These types of information programs have varying degrees of success, which depends largely on the materials being presented, the style of presentation, and the education and experience of the instructor. The presenter should have in-depth knowledge and interest in the subject and the materials presented. The material to be presented must be relevant and of interest to the participants. This type of education has been found to be most useful when it is kept brief and information is repeated to facilitate learning.

Educational Outreach (Person-to-Person or Academic Detailing)

Person-to-person education is one of the best ways of changing drug-prescribing behavior. The beneficial effects can be striking, as people will be more attentive and absorb more information with this type of education. The world's pharmaceutical companies have shown this to be an extremely useful technique; they have hired thousands of representatives to meet face-to-face with prescribers to provide information and market their drugs. The drug representatives have been remarkably successful. Academic detailing can accomplish the same thing but brings a more balanced, objective message.

Principles of this type of education include—

- Focusing on specific problems and targeting the prescribers
- Addressing the underlying causes of prescribing problems such as inadequate knowledge
- Allowing an interactive discussion that involves the targeted audience
- Using concise and authoritative materials to augment presentations
- Giving sufficient attention to solving practical problems encountered by prescribers in real settings

Influencing Opinion Leaders

The identification of health care leaders and other influential persons involved in prescribing drugs and then providing education, guidance, and policies to them can have important benefits. These leaders of the health care system may well be in a position to teach or direct other doctors, students, and pharmacists on the appropriate standards of care.

Patient Education

Patient education is a vital concept that will influence drug prescribing. Providing regular patient education by physicians, nurses, and pharmacists will teach patients appropriate therapy and improve health outcomes. An educated patient population will make fewer demands for

inappropriate drugs, especially antibiotics. Patient education will result in a corresponding improvement in how patients perceive drug therapy and comply with their drug regimens.

Sites for Face-to-Face Education

Persuasive face-to-face education is a flexible strategy that can occur in any setting where educators are able to talk to prescribers (or partners). For example—

- Health centers
- Hospitals
- Pharmacies
- Universities
- Continuing education seminars held at the district level

MANAGERIAL METHODS

The DTC, through its function of providing rational drug therapy, should have a number of managerial methods in place to help ensure that drugs are used correctly. These methods include—

- Standard treatment guidelines
- Drug use evaluations (audit and feedback)
- Clinical pharmacy programs
 - Monitoring of drug utilization
 - Therapeutic interchange program
- Drug and antibiotic restrictions
 - Structured order form
 - Drug availability restrictions
 - Automatic stop orders

Standard Treatment Guidelines

Standard treatment guidelines bring another important dimension to improving drug therapy. When developed and implemented correctly, guidelines bring significant advantages to health care programs. By definition, a treatment guideline is a systematically developed statement designed to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.

Standard treatment guidelines are disease-oriented, while formulary manuals are very much drug-oriented documents. Both of these documents provide important information for medical, nursing, and pharmacy staff. Every effort should be expended to produce both of these manuals, have them readily available for all practitioners, and update them on a regular basis to ensure accuracy of the information provided.

Establishing a standard treatment guideline is a lengthy process and one that must be done methodically and completely in order to have a product that all practitioners are willing to accept.

See Session 10 for more detailed information concerning advantages, disadvantages, and the process of developing this important document

Audit and Feedback

Audit and feedback is a managerial strategy that has been found to be successful in changing drug use behavior. This strategy involves the monitoring of drug use and then giving feedback on the information collected to prescribers in order to change drug use behavior. This audit and feedback methodology is ideally suited for the DTC.

One type of audit and feedback program is the drug use evaluation (DUE). DUE is an ongoing, systematic, criteria-based program that will ultimately help ensure appropriate drug use. DUEs are useful for identifying drug use problems as well as providing an intervention method to resolve these problems. A DUE can be structured so that it will assess the actual process of administering or dispensing a drug, i.e., appropriate indications and dose, and assess the outcomes, i.e., cured infections, decreased lipid levels, etc.

A system of DUEs can be established in a short period of time once the actual drug use problems have been identified. Many of these problems can be identified from activities described in Sessions 7 and 8 of this training module. Regular meetings of the DTC and assessments of quality measurements in the health care system should be able to identify problems that can be addressed in a DUE for resolution.

DUE should be an ongoing process where drug-related problems are addressed on a regular basis. It is important to consider the DUE as a long-term program, one that is continuously updated and revised to reflect current situations and needs within the health care institution.

DUEs are discussed in more detail in Session 11 of this training series.

Clinical Pharmacy Programs

The utilization of clinically oriented pharmacy personnel to help achieve rational drug use is an important intervention to improve drug use, one that is frequently overlooked in many countries.

A well-trained pharmacist will have the skills to monitor, evaluate, and make recommendations on the use of drugs. These skills should be utilized as much as possible to improve drug therapy.

These individuals can be expected to ensure that indications for use are appropriate, correct doses are prescribed, drug interactions and adverse drug reactions are avoided or minimized, and patient counseling/education is provided. Pharmacy personnel can provide medical providers with up-to-date, unbiased information to help with difficult drug therapy decisions. Pharmacists with drug information skills should be members of the DTC. Where skills may not be available to provide some of these services, it is advisable to provide training because availability of these skills has been shown to be cost-effective in improving drug therapy and in decreasing adverse events.

An important part of a pharmacy program is to control use of certain medications by providing generic substitution and therapeutic substitution (interchange). In these programs pharmacists are authorized to substitute drugs that have been prescribed by a physician with a drug that is considered equivalent. It is important to note that the DTC and medical staff must approve of any drugs that are a part of a therapeutic substitution scheme.

Generic substitution can be defined as the dispensing of a product that is generically equivalent to the prescribed product, with the same active ingredients, in the same dosage form, and identical in strength, concentration, and route of administration. Considering the wide range of generic products available on the market and the significant difference in the price and quality of brands compared to generics, substitution is an efficient use of resources and can result in significant savings and improved quality.

Controversy about generic prescribing and substitution centers around bioavailability and bioequivalence of the different generic products, especially if the procurement department is using multisource products. Bioavailability refers to the speed and the extent of absorption of a drug's active ingredient in the blood stream. Although bioavailability is unlikely to vary significantly between most brand name and generic products if purchasing is done through reliable, registered, and prequalified suppliers, it is important to acknowledge clinically important bioavailability problems with generic products where these exist. There are several important drugs that may have bioavailability issues. These include digoxin, phenytoin, warfarin, rifampicin, and others. See Session 5 for more information on this topic.

Therapeutic substitution (interchange) programs allow substitution or interchange of approved products that may differ in active ingredients, but have similar therapeutic activity in terms of efficacy and safety (e.g., lisinopril substituted for enalapril). Therapeutic substitution is especially helpful when newer, expensive, patented or single-source drugs are prescribed. This program can be beneficial when there is inappropriate prescribing of a specific drug and a suitable alternative is available and is comparable in efficacy and safety. As stated above, it is very important that the DTC (and medical staff) approve of any drugs that are a part of a therapeutic substitution scheme.

Drug Restrictions

Many drugs, especially antibiotics, are misused, creating the need to apply restrictions on availability and use. Some common types of restrictions follow.

Formularies and Procurement Lists

The most common method to restrict drug availability is by use of an approved formulary or by use of a restricted procurement list. These are especially useful for controlling antibiotics that may become excessive in number, as many providers and prescribers will have different choices and brand preferences for antibiotics. Formularies can also restrict the use of drugs by limiting the number and types of drugs that will be made available at each level of health care.

Formulary management and drug selection is discussed in detail in Sessions 2 and 3.

Structured Order Forms

Another method of drug restriction is the use of a structured order form that requires certain antibiotics to be prescribed (as listed on the form) for certain indications only. These forms may also have preprinted doses and dose intervals. This has been a very successful method of controlling drug use in some hospitals.

Automatic Stop Orders

Automatic stop orders are useful for hospitalized patients and enforce restrictions on the duration of drug use. This method has been found to provide valuable controls on the extended use of drugs, especially antibiotics and narcotics. It is a common problem for patients to be left on antibiotics for a long period of time because physicians have neglected to discontinue the drug.

REGULATORY METHODS

Influencing appropriate drug use through regulatory or statutory requirements is an important factor in promoting rational drug use.

Drug Registration

Drug registration, when enforced properly, places restrictions on drugs imported into the country. Registration keeps ineffective, poor-quality, and dangerous drugs off the market and out of the country. Monitoring and enforcement of the system is important, as there is the possibility of a large number of drugs reaching the public and private health care systems and private

nonmedical drug sellers or distributors. DTCs should ensure that only registered drugs are procured and used within the hospital and primary care clinics.

Professional Licensing

Licensing of health care professionals is a common practice that restricts the membership of the health care staff to individuals who are at least minimally competent and have necessary training and experience. Licensing can be extended to include level-of-use prescribing. This regulatory method places restrictions on the types of drugs that providers can prescribe depending on their training. These restrictions are necessary to limit untrained or minimally trained individuals to the appropriate level of clinical practice in the health care system.

DTCs should ensure that only licensed health care professionals are employed and that their duties comply with national regulations concerning their level of prescribing privileges.

Medical Representatives and Other Drug Promotion Activities

Within the administrative area of the committee, the DTC must play a role in the management of pharmaceutical company representatives and promotion of drugs. Medical representatives may promote their products with biased or inaccurate information. All promotional claims concerning medicinal drugs should be reliable, accurate, truthful, informative, balanced, up-to-date, capable of substantiation, and in good taste. The WHO (1988) ethical criteria for medicinal drug promotion can serve as a basis to develop measures and guidelines on drug promotion that can be used in hospitals.

The way hospitals and health facilities charge for drugs, particularly for outpatients and pharmacies, may affect the way they are used. Such examples of adverse promotion include—

- The promotion of overuse (including the use of expensive drugs where cheaper one would be just as good) and polypharmacy where prescribers earn part of their income from the sales of drugs
- The promotion of polypharmacy where the patient must pay the same fee or fixed charge regardless of the number and quantity of drugs they receive, e.g., a registration fee covering all drugs

The DTC has a role in advising the hospital management or other health authority concerning these issues. If possible, agreement should be established that none of the prescribers has a direct financial interest in the health facility pharmacy.

CHOOSING AN INTERVENTION

Choosing an intervention depends on the type of drug use problem and the reasons it exists. Studies have shown the following:

- A single educational strategy is usually not very effective and the impact is not sustainable.
- The use of printed materials alone is not effective or advisable.
- A combination of strategies always produces better results than a single strategy.
- Focused small groups and face-to-face interactive workshops have been shown to be effective.
- Monitoring and feedback is a very effective strategy to improve drug use.

ACTIVITY

Your DTC has noticed an increased use of certain brand-name antibiotics for treating adult infections in the outpatient clinic. Less-expensive generic products have recently been out of stock, but are now available. There is a reluctance to use the generic products because of a lack of confidence in the quality of these products.

The standard treatment guidelines for these infections are available but are not specific and therefore allow for a wide selection of different antibiotics. The costs of the brand-name drugs are approximately 50 percent higher than similar generic drugs available on the formulary. Most physicians and pharmacists agree that the brand-name products seem to work better and patients are less likely to return to the clinic for follow-up visits.

The hospital has significant budget problems and the administration is looking for answers on how to decrease cost without compromising quality. The administration has also had many patient complaints about poor-quality drugs, especially generic products.

- What are the major drug management issues in this case presentation?
- Define the beliefs and motivations of the prescribers that may contribute to the observed behavior.
- What kinds of strategies or interventions would you use to improve drug therapy in this hospital and lower drug cost?

SUMMARY

This session provides information on strategies to improve drug use. The functions of the DTC include many components, including providing programs to improve drug utilization. It is necessary to have these programs, as irrational drug use will reverse any advantages realized in providing other DTC functions.

Important strategies to improve drug use include—

- Educational programs
 - In-service education programs
 - Drug bulletins and newsletters
 - Formulary manuals
 - Face-to-face discussions
- Managerial programs
 - DUEs
 - Standard treatment guidelines
 - Clinical pharmacy programs
 - Drug restrictions
- Regulatory programs
 - Drug registration
 - Professional licensing
 - Drug representatives regulation

Each of these areas should be addressed carefully for a successful DTC and for a successful drug management program.